

Daria Armani — Curriculum Vitae

Updated to date 27/06/24

Personal Information

- **Date of birth:** 05 January 1999
- **Place of birth:** Poggibonsi (SI), Italy
- **Residence:** Loc. Fra le Zambre 5, Calci (PI), Italy
- **Phone number:** 3348167412
- **E-mail:** d.armani2@uni
- **ORCID:** 0009-0009-5453-1767

Education

- **Master Course in Industrial Chemistry (LM-71)** **Pisa, Italy**
DCCI University of Pisa *Sept. 2020 - May 2023*
Thesis title: "Immobilization study of a ketoreductase for the enzymatic production of (S)-1-(3,5-bis(trifluoromethyl)phenyl)-ethanol".
Topics and Skills: Industrial biocatalysis inserted in the context of process optimization in collaboration with the multinational industry Enzymaster GmbH. Periodical reporting, process optimization, problem solving.
Final evaluation: 109/110.
- **Bachelor Course in Industrial Chemistry for the Environment (L-27)** **Pisa, Italy**
DCCI University of Pisa *Sept. 2017 - Oct. 2020*
Thesis title: "Progetto di sintesi di (3R,3aR,6R,6aR)-esaidrofuro[3,2-b]furan-6-ammino-3-olo".
Topics and Skills: Organic synthesis project aimed at industrial scale-up of a renewable sugar designed for pharmaceutical building-blocks. Stereoselectivity of isohesides' chiral pockets. Search of literature on libraries.
Final evaluation: 109/110.
- **Three-year course in Scientific High School, Applied Sciences** **Cascina, Italy**
Liceo Scientifico Statale A. Pesenti *Nov. 2014 - July 2017*
Admitted with integration exam in Computer Science, Mathematics, Physics and Science Disciplines.
- **Two-year course in Figurative Arts, Painting and Sculpture** **Pisa, Italy**
Liceo artistico F. Russoli *Sept. 2012 - Oct. 2014*
Winner of scholarship for merit in both years of enrollment.

Skills

- **Languages:** Native language Italian, excellent knowledge of English (both written and spoken), French knowledge as a beginner.
- **Informatics Skills:** Good knowledge of common applications and LaTeX (LaTeX packages for chemists), principles of Matlab and Visio, good ability to use SciFinder for literature research and ChemDraw for chemical structure representation. Excellent application capacity of common open source packages for experimental data processing.
- **Analytical techniques:** Good knowledge of the following techniques FT-IR, HPLC, NMR, UV-Vis and ability to use the relative instrumentation. Excellent ability to optimize both batch and flow processes and related chromatographic analysis methods.
- **General Business Skills:** Great communication ability, public speaking, problem solving, reporting, leadership and team working.

Research Work Experience

Research fellow

Bologna, Italy

- CIRI Agri-food - DICAM University of Bologna

Jen, 2024 -

Flexible polymeric materials functionalized with cellulose nanocrystals and biomolecules from food waste for the formulation of sustainable, safe and active primary packaging. Scientific supervision of Prof. Nadia Lotti. The grant holder's research activity will be carried out in collaboration with other researchers, doctoral students and fellows from the LAMAC laboratories of DICAM, with the partner laboratories of the CIPACK and SITEIA Parma High Technology Network, with the actors of the agri-food and packaging supply chains involved in the BIO4SUSPACK project.

Postgraduate research contract

Pisa, Italy

- DCCI University of Pisa

June 2023 - Sept. 2023

Exploratory tests on innovative enzyme immobilization strategies aimed at the production of new efficient industrial biocatalysts. The research is carried on at Enantiolab at DCCI University of Pisa in collaboration with SCSOP (consultant office of Dr. Oreste Piccolo), under the scientific supervision of Dr. Antonella Petri.

Scientific Publications

○ Journals:

- Armani, D., Piccolo, O. and Petri, A., "Immobilization of alcohol dehydrogenases on silica-based supports and their application in enantioselective ketone reductions" **Catalyst MDPI 2024**, research article published on 20/02/24 <https://doi.org/10.3390/catal14020148>.
- Armani, D., Piccolo, O. and Petri, A., "Biocatalytic asymmetric synthesis of (S)-1-(3,5 bis(trifluoromethyl) phenyl)-ethanol by immobilized KRED in batch and flow conditions" **ChemCatChem 2023**, research article published on 21/07/23 <https://doi.org/10.1002/cctc.202300809>.
- Armani, D. and Petri, A., "Enzymes in poly(butylene succinate) industry: an overview on synthesis route and post-processing strategies" **Catalyst Research 2023** Catalysis Research Special Issue "Recent trends in Biocatalysis", review published on 08/11/23 <https://doi.org/10.21926/cr.2304026>.

○ Oral presentations:

- Armani, D., D'Alessandro, M., Russo, J., Patrignani, F., Romani, S., Lotti, N., "Preliminary studies on the suitability of polymeric materials for the realization of sustainable, flexible and active primary packaging (PR-FESR BIO4SUSPACK project)" **Macrogiovani 2024 - XXVI Edition**, AIM - Associazione Italiana di Scienza e Tecnologia delle Macromolecole, Rimini, Italy.
- Armani, D., "Immobilization study of a ketoreductase for the enzymatic production of (S)-1-(3,5-bis(trifluoromethyl)phenyl)-ethanol" **New Trends in Organic Synthesis 2023 - XXXVII Symposium**, Società Chimica Italiana Sezione Lombardia, Milan, Italy.
- Armani, D., "Production of different immobilized KRED samples for the biocatalytic reduction of BTAP to (S)-BTPE under flow conditions" **X Workshop Gruppo Interdivisionale Green Chemistry – Chimica Sostenibile SCI 2023**, 1a Giornata Congiunta con la Divisione di Chimica Industriale, Florence, Italy.

○ Poster presentations:

- Armani, D., D'Alessandro, M., Russo, J., Patrignani, F., Romani, S., Lotti, N., "Biomolecules from the valorization of agri-food by-products for sustainable, safe and active primary packaging (PR-FESR BIO4SUSPACK)" **Chemistry For the Future 2024**, DCCI, Pisa, Italy.
- Rosati, C., Armani, D., Piccolo, O., Petri, A., "Use of Alcohol Dehydrogenases as efficient biocatalysts for the enantioselective reduction of prochiral ketones" **Chemistry For the Future 2023**, DCCI, Pisa, Italy.

- Armani, D., Piccolo, O. and Petri, A., "Production of different immobilized KRED samples for the biocatalytic reduction of BTAP to (S)-BTPE under flow conditions" **X Workshop Gruppo Interdivisionale Green Chemistry – Chimica Sostenibile SCI 2023**, 1a Giornata Congiunta con la Divisione di Chimica Industriale, Florence, Italy.
- Armani, D., Piccolo, O. and Petri, A., "Development of different immobilized KRED samples for the biocatalyzed reduction of BTAP to (S)-BTPE in a flow system" **Chemistry For the Future 2023**, DCCI, Pisa, Italy.
- Piccolo, O., Armani, D. and Petri, A., "Development of different protocols for ketoreductase immobilization: application in asymmetric reduction of a ketone in a flow system" **I Chimici per le Biotecnologie 2023**, V Workshop SCI, Università degli Studi di Napoli Federico II, Naples, Italy.

Achivements

- GIC Award 2023 Interdivisional Group of Catalysis** **Milan, Italy**
 ○ *Innovative application of catalytic methodologies in organic synthesis* *Nov. 2023*
 Award holder for best Master Thesis 2023 developed in the field of sustainable catalysis in organic chemistry with a Master Thesis title of "Immobilization study of a ketoreductase for the enzymatic production of (S)-1-(3,5-bis(trifluoromethyl)phenyl)-ethanol".
- UniPi DCCI Research Fellowship** **Pisa, Italy**
 ○ *Second position achieved* *July 2023*
 Theme "Preparation and characterization of functionalized nanocellulose-based membranes for water purification"
- UniBo PhD Position in Industrial Chemistry** **Bologna, Italy**
 ○ *Second position achieved* *Sept. 2023*
 Theme "Industrial Waste Treatment in a Circular Economy Perspective" funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (M.D. 117/2023) and by Herambiente Servizi Industriali S.r.l.
- UniBo PhD Position in Chemistry** **Bologna, Italy**
 ○ *Second position achieved* *Sept. 2023*
 Theme "Technological innovation for API synthesis" funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (M.D. 117/2023) and by Spraying Systems Comtosi S.r.l.
- UniBo PhD Position in Chemical Engineering** **Bologna, Italy**
 ○ *Second position achieved* *Sept. 2023*
 Theme "Development of innovative grades of biodegradable and bio-based copolyesters for biomedical and foodpackaging applications with improved optical, mechanical and barrier properties" funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (M.D. 117/2023) and by Herambiente Servizi Industriali S.r.l.
 Project "Expanding the use of poly(butylene succinate)-derived materials to the sustainable field of biobased and biodegradable copolyesters."
- UniPi PhD Position in Chemistry and Material Science** **Pisa, Italy**
 ○ *Eligibility achieved for SC-CHIM01-B* *July 2023*
 Project "New hybrid biomaterials based on natural polysaccharides for transport and encapsulation of high molecular weight molecules." In-depth analysis of sustainable hybrid materials to be applied in 1D, 2D and 3D systems.

Extracurricular experiences

- Participation to Chemistry For the Future 2024**

○ *DCCI University of Pisa, Italy*
Poster session.

Pisa, Italy
July 2024
- Participation to Macrogiovani 2024 - XXVI Edition**

○ *AIM - Associazione Italiana di Scienza e Tecnologia delle Macromolecole*
Oral presentation and e-poster.

Rimini, Italy
June 2024
- Participation to X Workshop SCI Green Chemistry/Sustainable Chemistry**

○ *1a Giornata Congiunta con la Divisione di Chimica Industriale*
Flash presentation and poster session.

Florence, Italy
Oct. 2023
- Jury member candidate**

○ *Trieste Next-Festival of Scientific Research*
Candidate by invitation to participate in the Readers' Jury of the Science Book of the Year 2023 Award.

Trieste, Italy
Sept. 2023
- Participation to Chemistry For the Future 2023**

○ *DCCI University of Pisa, Italy*
Poster session.

Pisa, Italy
June 2023
- Quality Assurance group member**

○ *DCCI University of Pisa, Italy*
Active participation in annual meetings on the QA of the educational offers.

Pisa, Italy
June 2020 - June 2023
- Participation to Green Week**

○ *Green Economy Festival*
Scholarship winner for National Festival that addresses issues related to the green economy through visit/interaction with companies and entrepreneurial managers of the sector.

Padua, Italy
July 2021
- Participation to "Soft Skills for Future's Businesses"**

○ *Cycle of four Webinars*
Organized by Contamination Lab of University of Pisa.

Pisa, Italy
June 2020
- UniPi Choir member**

○ *Alto - mezzo Soprano, candidate for the section representative's role*
Active voluntary membership and participation in training twice a week and concerts.

Pisa, Italy
Sept. 2017 - June 2023
- Participation to "Treno della Memoria"**

○ *Living Memory Project*
Scholarship winner

Oświęcim, Poland
Jan. 2017
- Volunteer service**

○ *Voluntary association for social commitment "Colle Libera Tutti"*
Associate member and supervisor of peer review committee.

Calci, Italy
Dec. 2014 - Dec. 2022
- Study trip**

○ *International Language Holidays*
English language improvement, morning lectures, family experience.

Clacton-on-Sea, UK
Jun. 2014 – Jul. 2014
- Cultural trip**

○ *French language studied in school environment*
Continuous contact with the French correspondent

Moulins, France
Feb. 2012 – May 2012

Extracurricular Work Experience

- **Entertainment for children** **Florence, Italy**
Educational workshops and entertainment at private events *Jan. 2022 - Jan. 2024*
- **Babysitting and homework service** **Pisa, Italy**
Paid evening work at a private residence *Sept. 2018 - Sept. 2019*

Personal interests

- **Sports and Hobbies:** Non-competitive swimming and running, trekking, sailing basis. Reading, drawing, singing, cooking, traveling.
- **Travels:** Turkey, Egypt, Romania, Greece, Georgia (Caucasus), Slovenia, Croatia, Bosnia Herzegovina, Montenegro, Kosovo, North Macedonia, Albania, Hungary, Slovakia, Poland, Czech Republic, Spain, France, United Kingdom, Vietnam, Thailand, Switzerland.